Abstract ID : 249

Title : Biological Status Review of the Florida Manatee (Trichechus manatus latirostris)

Category : Conservation

Student :

Preferred Format : Either Oral or Poster Presentation

Abstract : The Florida manatee is listed as endangered at the state and federal levels. The Florida Fish and Wildlife Conservation Commission was petitioned in 2001 to evaluate the manatee's status in light of the state of Florida's listing criteria for imperiled species that were adopted in 1999. The five listing criteria are roughly equivalent to those defined by the IUCN. The criteria include estimates of the number of mature individuals, species range, amount of critical habitat available, degree of population fragmentation, past population decline, and the potential for future population decline and extinction. We calculated the percentage of mature individuals (4+ years) in the population to be 66.1% assuming a stable age distribution. Given the highest population count (3,276 in 2001) obtained through Florida's annual synoptic survey, the number of mature individuals was estimated to be 2,165. The species' range exceeded 7,500mi^2 in Florida alone, and the 'area of occupancy' (e.g., habitat used by manatees during the coldest temperature episodes) was estimated at 100-300 mi^2. A population viability analysis model was developed using VORTEX to determine the probability of a future population decline and probability of extinction given a variety of plausible scenarios that incorporated expected declines in carrying capacity through loss of warm-water refugia and increases in mortality from human-related causes. The model indicated that given future threats to the species, there is a probability of a 50% decline in the manatee population over the next 3 generations (45 years), thus meeting the definition of "threatened" under the state's population decline criteria. In order to meet the definition of "endangered," there would have to be a projected 80% decline over the next 45 years. None of the scenarios modeled as part of the analysis resulted in extinction of the population within 100 years.